

7.5"/8" Loopstick Tecsun PL-310ET Model



Introduction

This is a small radio using DSP and is an improved version of the PL-310. Along with the PL-380, it is considered the most recommended model for beginners in shortwave broadcasting. Although it is small, it has DSP and external antenna support functions, showing a significant level of reception performance, and supports 550 frequency memories. It uses Silicon Labs' Si4734 DSP chip. ETM function was added. In the original version (PL-310), it was pointed out that the soft muting phenomenon was quite severe and was very annoying, but with the PL-310ET, that problem was resolved to some extent and became similar to the PL-380. The speaker sound quality is much better than the PL-380, and the mid-bass sound is stronger than that of the PL-380. The internal circuit name of PL-310ET is PL-320 (later revised in 2022 and called it PL-310ET, my version now uses PL-310ET dated in 2022). Unlike TECSUN's conventional PLL models such as the PL-660, there is a problem in common with DSP models that they do not perform a smooth band scan (a method of tuning in which the sound is continuously connected without temporary interruption when the tuning knob is turned). The basic performance and functions are almost identical to the PL-380. In terms of ease of use, there are some aspects that are slightly more inconvenient than the PL-380, such as the lock and light buttons being too small. The rod antenna can rotate 360° like PL-310ET and PL-330. The length of the built-in ferrite bar antenna is 10cm, which is longer than that of the PL-380, but the actual reception performance is slightly inferior to that of the PL-380, perhaps due to internal noise issues. Additionally, since the shortwave supported frequency range is 2,300 to 21,950 kHz, not all frequency ranges are supported. Compared to the PL-380, the main body is a bit flimsy, but it is not at a level that interferes with use. To completely disable the light, turn off the radio and press keypad 5 until OFF appears. Light activation until ON appears. The tuning knob is loose and tends to fall off easily. This can be solved by adding a piece of double-sided tape to the fixing area or applying instant adhesive. However, if you fix the tuning knob with instant adhesive, it may be difficult to disassemble and repair it later, so we recommend using double-sided tape. In addition, the buttons on the radio are not all individual buttons (PL-600, PL-660, PL-680, PL-880, PL-450, PL-118, etc.), but are structured with button caps taped over the contact parts (PL-660, PL-680, PL-880, PL-450, PL-118, etc.) -310ET, PL-380, PL-606, etc.), when you press the power button, the position of the button cap may be misaligned, or dust may have entered the gap between the tapes, making it difficult to press the power button. In this case, the problem can be solved by removing the cap of the power button and removing the dust with scotch tape, or by adjusting the position and reattaching it. When disconnecting, be careful of the built-in antenna cable that is connected by soldering. The Japanese OEM is Aiwa AR-MD20. It takes 3 AA batteries.

It was released in 2014(?) and the evolved version of PL-310.

Solutions Besides the obvious option of boosting weak signal sensitivity by direct or inductive coupling to large external antennas, another option was sought by those who wanted a sensitive "travel portable."

This would boost up the Medium Wave (or Longwave) sensitivity far above that provided by the midget stock loopsticks (as well as enhancing the radio's nulling capability), but essentially retain the model's portability. The general goal was to provide a large sensitivity boost to complement the new DSP radio's breakthrough selectivity boost, thereby creating a well-balanced transoceanic DXing radio competitive with any other portable on the planet in both sensitivity and selectivity. This was the guiding principle behind the development of the 7.5"/8" loopstick Tecsun PL-310ET models-- far and away the most popular antenna modification in the history of the Ultralight radio enthusiast group. (based on document from Gary de Bock)

Why the PL-310ET Model? Like the PL-380, PL-310ET has a selectable filtering options down to the 1 kHz DSP level. Unlike PL-310, the PL-310ET soft mute threshold is below than the original, but still it pumps the fading signal. Just like PL-380, PL-310ET has a front panel construction which gives it a moderate degree of rain protection. Survivability of any portable depends upon the quality control of the originating factory and the care of the owner. (based on Gary de Bock's document)

PL-310ET Ordering Note

Just like PL-380, PL-310ET is manufactured only in China, and generally has a good quality control record (based on Gary de Bock's document). Originally sold in Hong Kong, Mainland China and Taiwan, it became popular in Asia, the Americas, Africa, and Europe. Cost of the PL-310ET is varied. In Philippines, Lazada an e-shopping based in Asia cost is P2,390.

It comes in two color, black and silver. Like PL-380, it had an assorted of accessories, includes the PL-310ET shipping package are included the three AA battery (however it can be sold separately, a USB cable to charge the batteries from a computer or the smartphone charger socket, vinyl carrying case, stereo ear bud phones and a wrist strap attached to the PL-310ET cabinet. Some sellers even offer an AC adapter to charge the batteries.

Realistic Expectations Just like PL-380, although this 7.5"/8" loopstick upgrade will certainly make your PL-310ET far more sensitive than the stock model on Medium Wave or Longwave, it is not designed to compete with large (2' sided or larger) inductively coupled box loops or any of the new FSL antennas. And although the sensitivity upgrade will boost the PL-310ET's MW band weak-signal performance up to the level of classic portables like the ICF-2010 and RF-2200, the PL-310ET does not have the SSB capability that these classic portables have (which is a significant advantage in transoceanic DXing). On the other hand, the PL-310ET's breakthrough DSP selectivity will generally exceed that offered by these classic portables, so the overall DXing capability may be considered roughly equal. In comparison to the classic Eton

E1 portable, the modified PL-310ET will have DSP selectivity roughly equivalent to that offered by the E1's premium Murata CFJ455K5 IF filter, roughly equivalent sensitivity, along with far superior nulling ability (the E1 has no loopstick, but uses a whip antenna for MW and LW reception). The PL-310ET also has multiple digital signal search modes which are not available on the other portables, which may possibly offer a DXer greater convenience while listening for certain stations at an unfamiliar location. (based on Gary de Bock document).

My material I used

You will need

Ferrite rod (Nickel Zinc) (100 mm x 2/ 200-mm x 1)

Litz wire (scrapped from the old radio or otherwise bought from the electronic store or e-shop)

T pipe and a pipe (the length should be above 200mm)

Plastic tie wraps

Superglue (optional for broken ferrite or in case of 100mm ferrite x 2, needed also for loopstick frame preparation)

Soldering iron and lead

Screwdriver (flat and Philips styled jeweler size)

White masking tape

Soft cloth

Glue gun with glue stick

Rubber air hose (for those who have loopstick frame)

Electric tape

Procedure:

Loopstick preparation

1. With a two 100mm ferrite rods, glue the end of the ferrite rod and then push the thumb of the ferrite to another ferrite and hold for a few seconds, (same if the ferrite rod is broken, except the 200mm ferrite version since there's no need to glue it).
2. Using a white masking tape, tape the ferrite to make it a insulation.
3. Then make 79 turns of coil using litz wire.
4. Afterwards, tape it to prevent the litz wire from unraveling.
5. Before voiding the warranty of the new PL-310ET, after performing the test of daytime/nighttime reception, place the PL-310ET face down on the soft cloth and remove all the screws and placed it all on the container.

Installation of the radio

6. Then, facing the radio up on the left, grasp the whip antenna (and the rest of the back cabinet) with one hand, and the front cabinet section with the other hand. Slowly and gently pull the two cabinet sections apart, starting

at the radio's left side (as shown). Separate the two sections slowly until they are completely apart (except for the whip antenna connecting lead). Take care not to pull on the whip antenna connecting lead, which runs from the circuit board to the back-cabinet section

7. Place the two PL-310ET cabinet sections down on a flat surface, as shown. Remove the wrist strap from the radio, as shown in the upper right corner of the photo (the wrist strap routing hole through the cabinet's left side will become the new Litz wire routing hole). Note the position of the two Litz wire connections from the stock loopstick to the circuit board, labeled "AN1" and "AN2." These Litz wire leads from the stock loopstick will be disconnected in the following step, and will be replaced by the Litz wire leads from the new 7.5"/8" loopstick at these same two connection points later. Otherwise, if you wish to retain the strap, solder the center top part of the radio, make three holes, the two for the securing the pipe while one hole for the litz wire connection.
8. If you wish to salvage the stock loopstick for future usage, using a low-heat soldering iron, carefully de-solder the two Litz wire leads at the "AN1" and "AN2" connection points on the circuit board (as shown on the photo). If you do not wish to salvage the stock loopstick, simply cut these two Litz wire leads halfway along their length, in preparation for removal of the stock loopstick from the radio in the next few steps. The "AN1" and "AN2" circuit board connections are relatively small, so avoid any mechanical stress to these connections when cutting the Litz wires.
9. . Using a small, flat jeweler's screwdriver, begin probing around the slots adjacent to the stock loopstick to carefully and gently pry it out of its slot. Depending upon how much glue the Chinese factory used to secure your PL-310ET's loopstick, this process may be either quick or tedious. In most cases the factories use a minimum of glue, and the loopstick can be pried out within a couple of minutes (although there are tedious exceptions). Insert the flat part of the screwdriver all around the adjacent slots and gently work it down and under the flat loopstick, prying it gently upwards to discover the glue points. Continue working patiently until the loopstick (in one piece) responds to your prying by coming out of its slot. In tedious cases, resist the temptation to grab needle-nose pliers and pull the stupid thing out of its slot, since it will probably retaliate by breaking up into multiple pieces and falling into tiny holes throughout the cabinet sections.
10. Once the stock loopstick has been pried up and out of its slot, grasp the loopstick and gently twist it, working back and forth until the remaining glue spots are clearly seen. Using needle nose pliers on the remaining glue spots (only), pull on the glue spots until all the glue comes up out of the loopstick slot. In some rare removal cases there may be some pieces of Litz wire and/ or loopstick pieces left in the slot after the antenna has been pulled out, which should be removed either by using needle-nose pliers, or by turning the slot upside down and shaking out the debris (while holding on to both of the separated cabinet sections). Ensure that the loopstick slot is clean and free of debris before continuing, since

this slot will be used to route the new 7.5/8" loopstick Litz wires after they pass through the hole left by removal of the wrist strap. NOTE: The process of removing the stock loopstick may cause some minor dust or debris to drop down to the inner surface of the front panel display window, and/ or LCD display. If this happens, follow the next three steps to remove such dust or debris, and restore these windows to a pristine state. If you have successfully removed the stock loopstick without having any dust or debris fall onto these surfaces, skip the next three steps

Clearing mess

11. . Using a jeweler's screwdriver, remove the screw at the position shown, and place it in a safe place away from the work area. While holding onto the front cabinet face, carefully pull the circuit board assembly up at the right side, and like turning a page, gently place it on top of the back-panel section. Rotate the front panel and circuit board assemblies until they resemble the photo below.
12. Using a damp, clean cloth or paper towel, carefully remove all dust or debris which has fallen onto the inner surface of the front panel display window, or the LCD display. After removal of such dust or debris, ensure that these surfaces are dry and clean before continuing.
13. Reversing the procedure followed in Step 22a above (based on the deBock PL-380's supercharged model document), return the circuit board assembly to the position shown in the photo above, and re-install the screw at the lower left position in the photo.

Pipe frame (common if you don't have one, my version)

14. With the long pipe, put the two pipes on the T pipe and apply heat to sealed or use a superglue to secured the two pipes to the T pipe. Afterwards, the bottom part of one pipe shall be melt to fit the litz wire connection and the T pipe had to melt to make two holes for securing the pipe with plastic tie wraps.
15. Arrange the front and back cabinet sections in the position shown, using some soft material such as a cloth tape roll (or paper towels) between the front and back cabinet sections to prop up the front section securely in a vertical position, as shown in the photo. Ensure that the front cabinet section will not be shifting around during the next few steps, and also ensure that there is sufficient lighting in the work area to carefully observe the top (gluing) surface of the PL-310ET's front cabinet section.
16. Take the pipe with ferrite inside on the PL-310ET top frame.
17. Then solder the two litz wire ends to ANT1 and ANT2 respectively. (If the litz wire is too long, remove it short by cutting)
18. With a tie wraps, place the tie wrap on the two holes of the top part of the radio's cabinet top portion and to the T pipe,
19. Reinstall the 5 screws and then apply a hot glue via a glue gun on the top part of the radio's top portion hole. And cool it off.
20. Afterwards test it.

Loopstick Frame (if you have one, please look at the PL-380 supercharged model document for this building a loopstick frame)

14. Take the orange loopstick frame and practice placing it on top of the PL-310ET's gluing surface in exactly the position shown, paying special attention to the beveled surface on the PL-310ET shown in the photo (which is the key to accurate placement). Ensure that the loopstick frame's gluing surface is completely flat by sliding it along the PL-310ET's gluing surface, which should be a smooth ride along its length (if not, check the edges of the loopstick frame's gluing surface and sand the protruding edges (ONLY) with 150 grade sandpaper, taking care to clean the frame's glue surface again, as in Step 24 above (according to deBock's PL-380 Supercharging model document). Ensure that your work area has sufficient lighting on this special beveled surface of the PL-310ET shown in the photo, and make several "dry runs" with the loopstick frame, practicing an accurate frame placement (centered on the PL-310ET's glue surface, and straight along the beveled surface). Observe the boundaries of the PL-310ET's glue surface, and make sure that you know exactly where to place the frame when glue is applied to the PL-310ET for a permanent bond.

15. Using a damp, clean cloth or paper towel, carefully remove all dust and debris from the top (gluing) surface of the PL-310ET's front cabinet section, and ensure that this surface is clean and dry before continuing. In a similar way, carefully remove all dust and debris from the orange plastic loopstick frame, especially from the bottom (gluing) surface that will mate with the PL-310ET's gluing surface. Ensure that the loopstick frame's gluing surface is also completely clean and dry before continuing.

16. After making multiple dry runs (and after ensuring that the PL-310ET's front cabinet section will not shift around during the glue procedure), take the super glue packet and apply a thin (1/8", or 3 mm) bead of glue along the center of the PL-310ET's glue surface, extending it 4 1/2" (130 mm) long (with equal spaces on both ends). While sighting the PL-310ET's beveled surface, place the loopstick frame carefully down in the correct position, with the frame centered on the glue surface and lined up straight with the beveled edge (as shown in the photo above). If satisfied with the position, press down on the loopstick frame to lock the two surfaces together securely. Usually the frame may be shifted around slightly within 1 or 2 seconds of placing it on the super glue, so use this brief time to promptly shift the frame to a straight position if necessary. After a couple of seconds, though, you will need to be satisfied with whatever position the frame has ended up with (it will still hold the loopstick just fine, for DXing purposes).

17. After the loopstick frame is placed securely on the super glue and locked in place on the PL-380's glue surface, within a few seconds gently pick up the PL-310ET's front cabinet section and place one hand on the bottom surface of this section. Gently squeeze the loopstick frame against the PL-310ET's glue surface for about a minute until all the glue is completely dry and secure.

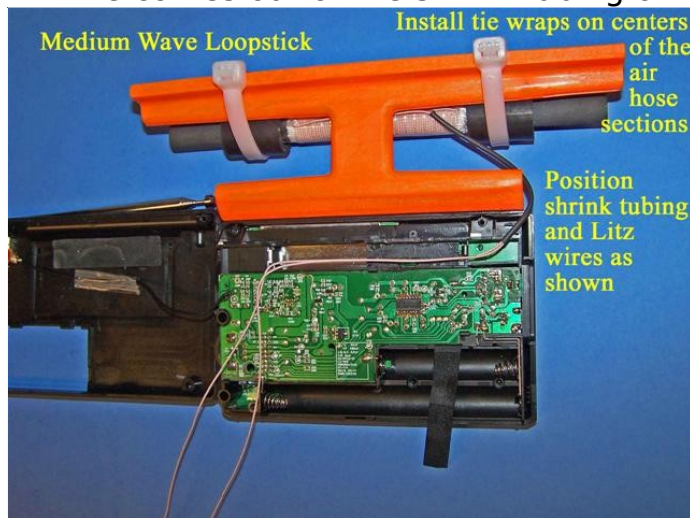
18. Observe the borders of the loopstick frame with the PL-380 on both the front and back of the radio, and promptly and carefully remove any excess glue debris with a flat jeweler's screwdriver, scraping the glue away from the border areas. This is especially important for the back border area, since too

much excess glue debris can make it difficult to close the back cabinet section.

Preparation for loopstick installation (loopstick frame only)

19. Place the mediumwave loopstick on a flat table, as shown. Cut a 3" (76 mm) length of the 1/16" shrink tubing and insert one of the loopstick's Litz wire leads through it. Check the other Litz wire lead's end surface, and ensure that it is cut cleanly, without fraying or kinks (if necessary, cut a very short length off of the Litz wire to ensure that it has a cleanly cut end section).

20. Insert the loose end of the second Litz wire lead through the upper hole of the shrink tubing, as shown. Follow the procedure shown in the photo to slowly shift the shrink tubing over the end of the second Litz wire, ensuring that the second Litz wire has no bends or kinks as it enters the shrink tubing. Continue shifting the shrink tubing to the left until the end of the second Litz wire comes out of the shrink tubing on the right side.



21. Taking care to keep the Litz wires parallel (without any sharp bends or kinks), shift the shrink tubing along the Litz wires until it is in the position shown in the photo, very close to the loopstick. Place the loopstick in the position shown under the loopstick frame, and install two plastic tie wraps loosely around the centers of the rubber air hose sections (in the positions shown). When you are sure that the plastic tie wraps are in the exact centers of the rubber

air hose sections and that the loopstick is centered on the loopstick frame (with equal lengths of the frame extending past the ends of the ferrite rod), tighten the plastic tie wraps securely and cut off the excess lengths. Position the Litz wires as shown in the photo at left (courtesy of Gary de Bock)

22. Cut a 1 1/2" (38 mm) length of the shrink tubing and install it over the ends of the two Litz wires, following the procedure detailed in Step 30. Slide this length of shrink tubing over the Litz wires until it is at the position shown in the photo below, and push it into the clamp as shown to lock it into place.

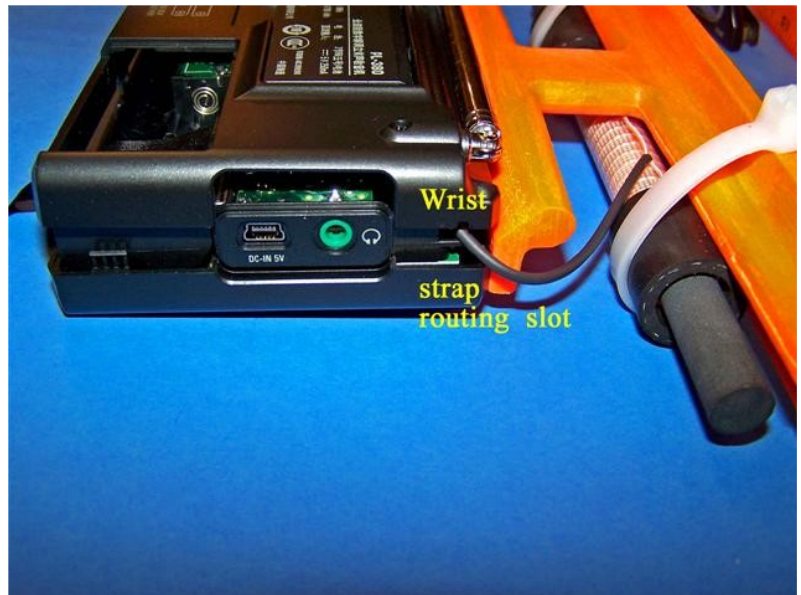
23. Using a soldering iron, carefully desolder the loose Litz wire connections on the "AN1" and "AN2" terminals (if you have not yet done this). NOTE: Always avoid severe heat and mechanical stress on these two Litz wire connection points.

24. Note the position of the "AN1" and "AN2" Litz wire connection terminals, and temporarily place the loose Litz wire leads adjacent to them. Measuring about 1" (25 mm) past the Litz wire lengths necessary to reach these two terminals when routed as shown in the photo, cut off the excess Litz wire lengths (in a clean manner). Cut a 1" (25 mm) length of shrink tubing and install it over the longer Litz wire lead (only), temporarily placing it as far

away as possible from the end of the Litz wire. NOTE: The procedure of tinning the ends of the Litz wires requires that all of the individual Litz wire strands be soldered together at the ends. This requires a clean, shiny solder connection all around the circumference of the Litz wire ends for at least 1/8" (3 mm). When preparing the ends of the Litz wires in the next step, ensure that the ends are tinned in this manner before continuing.

25. Apply an electric tape to the PCB to prevent litz wire from touching. Connect the two litz wires end to the ANT1 and ANT2 respectively.

26. Carefully place the back panel back over the rest of the radio, ensuring that the long section of shrink tubing is centered in the wrist strap routing slot (as shown courtesy of Gary de Bock), and that it is not pinched or bent. Very carefully lower the back panel down over the radio from the top left corner to the top right corner, and pull the battery compartment ribbon out before finally snapping the back panel into place at the lower right corner.



After raising the whip antenna to a vertical position and ensuring that the Litz wire shrink tubing is still centered in the wrist strap mounting hole, reinstall the screws removed in Step 17 (based on the deBock supercharging the PL-380's document), starting with the screw next to the wrist strap routing slot (near the whip antenna), then proceeding to the upper left and lower left screws. Finally, reinstall the two battery compartment screws (and the batteries) to finish the modification process.

Testing and Operation

NOTE: Initial testing of the model should always be performed in a completely clean RF environment, free of noise and hash from computers, LCD/LED/plasma TV's and similar sources of RF pollution. This is especially important in the case of the Longwave model. Initial testing should be performed outdoors for either model, if at all possible.

Turn on the radio, and begin checking the reception of fringe AM stations on the low band. As long as both the PL-310ET and the new 7.5"/8" loopstick are working properly, there should be a MAJOR increase in both the strength and quantity of fringe AM stations received across the band (relative to the stock PL-310ET model). The new loopstick should also provide a major boost in the

capability to null pest stations, due to its external mounting in a clean RF environment.

A New World of AM and LW Sensitivity The installation of this 7.5/8" loopstick transplant provides an astonishing increase in the PL-310ET's weak signal sensitivity on both the medium wave and long wave frequencies, making the model competitive for all types of DXing. On the AM band, the signal boost over the stock unit typically will be around 20 dBu on all frequencies. During daytime DX testing first starts at the stock receiver at 3PM then the second the next day at local noon, the modified PL-310ET was able to receive 65 stations, some are inaudible on the stock unit, many of which were outside of the author's home state of Leyte. The following table details the RSSI readings (in dBu) and S/N readings (in dB) received on both units while receiving various fringe stations here in Tacloban City, Leyte during these daytime DX conditions.

RESULT

Stock and 200mm PL-310ET (tested on 1 khz bandwidth)

540	DYRB	- 23/12 (moderate)	on stock	and 32/09 (moderate)	on 200mm
549	CNR5	Putian	- 13/02 (no reception)	on stock	and 28/00 (trace) on 200mm
558	DZXL	- 15/00 (no reception)	on stock	and 26/00 (trace)	on 200mm
576	DYMR	- 32/16 (moderate)	on stock	and 40/19 (moderate)	on 200mm
585	DYLL	- 20/01 (no reception)	on stock	and 26/00 (trace)	on 200mm
594	DZBB/DXDB	- 18/02 (no reception)	on stock	and 31/00 (trace)	on 200mm
612	DYHP	- 36/25 (moderate)	on stock	and 45/21 (strong)	on 200mm
630	DYWB	- 19/04 (trace)	on stock	and 32/03 (moderate)	on 200mm
648	DYRC	- 34/23 (moderate)	on stock	and 47/22 (strong)	on 200mm
657	DYVR/DYES	- 39/25 (moderate)	on stock	and 49/25 (strong)	on 200mm
675	DYKC	- 36/24 (moderate)	on stock	and 48/24 (strong)	on 200mm
684	DYEZ	- 18/02 (trace}	on stock	and 25/03 (trace)	on 200mm
693	DXBC	- 41/25 (moderate)	on stock	and 54/25 (strong)	on 200mm
702	DZAS	- 16/00 (no reception)	on stock	and 30/00 (weak)	on 200mm
711	DZLW/DXIC	- 24/04 (weak)	on stock	and 33/05 (weak)	on 200mm
720	DYOK	- 22/01 (trace)	on stock	and 22/02	on 200mm
729	DZGB/DXIF	- 22/12 (trace)	on stock	and 39/11 (moderate)	on 200mm
747	DYHB	- 15/01 (no reception)	on stock	and 24/05 (weak)	on 200mm

774 DYRI - 17/06 (trace) on stock and 29/05 (moderate) on 200mm
792 DXBN - 37/22 (moderate) on stock and 41/25 (strong) on 200mm
801 DYWC - 17/06 (trace) on stock and 24/06 (weak) on 200mm
819 DYVL - 88/25 on stock and 91/25 on 200mm
828 DXCC - 38/00 (weak) on stock and 52/02 (weak) on 200mm
837 DYFM - 15/00 (no reception) on stock and 23/02 on 200mm
864 DYHH - 28/06 (moderate) on stock and 32/13 (moderate) on 200mm
882 DXOG - 38/21 (moderate) on stock and 48/24 (strong) on 200mm
900 DYOW - 22/02 (weak) on stock and 25/05 (weak) on 200mm
909 DYLA - 23/02 (weak) on stock and 26/06 (weak) on 200mm
918 DXRS - 47/24 (strong) on stock and 55/25 (strong) on 200mm
927 DZLG - 19/00 (no reception) on stock and 29/00 (weak) on 200mm
963 DYMF - 27/06 (weak) on stock and 29/11 (moderate) on 200mm
981 DXBR - 16/02 (weak) on stock and 23/04 (weak) on 200mm
999 DYSS - 32/11 (moderate) on stock and 36/17 (strong) on 200mm
1008 DWBS- 24/00 (weak) on stock and 26/00 (weak) on 200mm
1017 DYRP - 14/00 (no reception) on stock and 18/00 (trace) on 200mm
1035 DYRL - 23/00 (trace) on stock and 28/00 (weak) on 200mm
1044 DZNG/DYMS/DXCO - 31/07 (fair) on stock and 35/05 (moderate) on 200mm
1053 DYDA - 22/00 (trace) on stock and 32/00 (weak) on 200mm
1080 DXKS - 51/25 on stock and 56/25 on 200mm
1107 DYIN - 23/00 (trace) on stock and 28/00 (weak) on 200mm
1116 DYTR - 27/00 (trace) on stock and 31/00 (weak) on 200mm
1125 DYAG - 28/00 (trace) on stock and 31/00 (weak) on 200mm
1134 DYRM - 25/00 (trace) on stock and 31/00 (weak) on 200mm
1143 DYAF - 25/00 (trace) on stock and 32/00 (weak) on 200mm
1152 DYCM - 29/05 (weak) on stock and 28/13 (moderate) on 200mm
1161 DYKR - 28/00 (trace) on stock and 34/00 (weak) on 200mm
1170 DXJS - 31/00 (weak) on stock and 31/00 (weak) on 200mm
1188 DXRU - 26/00 (weak) on stock and 35/00 (weak) on 200mm
1215 DYRF - 18/08 (weak) on stock and 22/10 (fair) on 200mm
1233 DYVS - 20/00 (no reception) on stock and 37/00 (weak) on 200mm
1296 DWNX - 13/00 (no reception) on stock and 34/00 (weak) on 200mm
1323 DYSI - 20/00 (no reception) on stock and 34/00 (weak) on 200mm
1368 DYVW/DXKO - 18/09 (weak) on stock and 24/15 (moderate) on 200mm
1404 DYKB - 12/00 (no reception) on stock and 29/00 (weak) on 200mm
1458 DYZZ - 06/00 (no reception) on stock and 34/00 (weak) on 200mm
1494 DXOC - 13/00 (no reception) on stock and 36/00 (weak) on 200mm
1548 DYDM - 13/00 (no reception) on stock and 41/00 (weak) on 200mm

RESULT

As I expected, the overall AM performance of this fixed-coil loopstick was found to be slightly superior to that of the E100 Slider models, even after the Slider coils were peaked. This provides an obvious advantage of allowing a DXer to chase transoceanic DX during brief band openings, without the need to peak a coil each time a new

frequency is selected, since the inductance is 558uH compared to stock 233uH value. It also tested longwave reception (based on Gary de Bock's document). Meanwhile, my inductance is 500uH otherwise.
I managed to catch a weak beacon from Mactan at 331 kHz from empty lot.

SUMMARY When modified, TECSUN PL-310ET and its similar PL-380 has the breakthrough AM sensitivity needed to complement its razor-sharp selectivity, providing a very competitive DXing package (in a very small size).

73!

Ciaerwin B. Tanpiengco (Tacloban City, Leyte, Philippines) with the help from Gary de Bock (Puyallup, WA, USA)